

IN THE CLAIMS:

1. (Previously Presented) A reception apparatus which receives scrambled content, and reproduces the scrambled content in a normal reproduction mode and in a particular reproduction mode, comprising:

reception means for receiving the scrambled content and storage information,

5 wherein (a) the scrambled content is a content which has been scrambled in units of frames so that the frames can be descrambled using descrambling keys that respectively correspond to each of the frames, and (b) the storage information includes a list of the descrambling keys which includes all of the descrambling keys;

storage means for storing the received scrambled content and the storage

10 information;

list extraction means for extracting the list of descrambling keys from the stored storage information;

descramble processing means for descrambling the scrambled content; and

reproduction means for reproducing the descrambled content, wherein

15 the normal reproduction mode is a mode which includes a play mode and in which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and in which only predetermined frames selectively extracted from less than all of the frames are descrambled and reproduced, and

20 (a) in the normal reproduction mode,

said list extraction means extracts all descrambling keys from the list of descrambling keys,

said descramble processing means descrambles each frame of all of the frames using each of the extracted descrambling keys, and

25 said reproduction means reproduces all of the frames descrambled by said descrambling means, and

(b) in the particular reproduction mode,

said list extraction means selectively extracts descrambling keys corresponding to the predetermined frames from the list of descrambling keys,

30 said descramble processing means descrambles each of the predetermined frames using the extracted descrambling keys, and

said reproduction means reproduces only the predetermined frames descrambled by said descrambling means so that the content is reproduced in a different speed than a speed of reproduction of the normal reproduction mode.

2. (Previously Presented) The reception apparatus of Claim 1, wherein

the reception means receives one piece of storage information in which the list of descrambling keys is embedded,

the storage means stores the received scrambled content and the one piece of
5 storage information, and

the list extraction means extracts the list of descrambling keys from the stored one piece of storage information.

3. (Previously Presented) The reception apparatus of Claim 1, wherein
the reception means receives a plurality of pieces of storage information in each
piece of which a divided portion of the list of descrambling keys is embedded,

the storage means stores the received scrambled content and the plurality of
5 pieces of storage information, and

the list extraction means extracts the list of descrambling keys from the stored
plurality of pieces of storage information.

4. (Previously Presented) The reception apparatus of Claim 1, wherein
the reception means sequentially receives a transport stream (TS) packet including
the predetermined unit of scrambled content,

the storage means sequentially stores the received TS packet, wherein
5 the descramble processing means includes:

scrambled content extraction means for extracting the predetermined unit of
scrambled content from one of the TS packets stored in the storage means, and counting the
ordinal position of the TS packet from the leading TS packet;

descrambling key extraction means for extracting a descrambling key from the list
10 of descrambling keys, based on the counted ordinal position; and

descrambling means for descrambling the extracted predetermined unit of
scrambled content using the extracted descrambling key.

5. (Previously Presented) The reception apparatus of Claim 1, wherein
the reception means receives at least one storage Entitlement Control Message
(ECM) as the at least one piece of storage information, the list of descrambling keys being
embedded in a portion to be encoded in the main body of the ECM,

5 the storage means stores the received storage ECMs, and
the list extraction means interprets the stored storage ECMs to extract the list of
descrambling keys.

6. (Original) The reception apparatus of Claim 5, wherein
the reception means receives the storage ECMs including identifying information
for distinguishing the storage ECMs from another type of ECM.

7. (Original) The reception apparatus of Claim 5, wherein
the reception means receives the storage ECMs at a time.

8. (Previously Presented) The reception apparatus of Claim 1, wherein
the reception means sequentially receives a TS packet including (a) the
predetermined unit of scrambled content and (b) packet specifying information for specifying an
unscrambled TS packet, and

5 the storage means sequentially stores the received TS packet, wherein
the descramble processing means includes:
scrambled content extraction means for extracting the predetermined unit of
scrambled content and the packet specifying information from one of the TS packets stored in
the storage means;

10 descrambling key extraction means for extracting a descrambling key from the list
of descrambling keys, based on the extracted packet specifying information; and

 descrambling means for descrambling the extracted predetermined unit of
scrambled content using the extracted descrambling key.

9. (Previously Presented) The reception apparatus of Claim 8, wherein
 the packet specifying information is one of Continuity Counter (CC), the number
of TS packets, a cumulative amount of data, a relative reproduction time, and a scrambling key
identifier,

5 the scrambled content extraction means extracts, as the packet specifying
information, one of the Continuity Counter (CC), the number of TS packets, the cumulative
amount of data, the relative reproduction time, and the scrambling key identifier, and

 the descrambling key extraction means performs a predetermined operation to the
extracted information as the packet identifying information to generate a descrambling key
10 identifier, and extracts a descrambling key from the list of descrambling keys based on the
descrambling key identifier.

10. (Previously Presented) The reception apparatus of Claim 1, wherein
 the reception means sequentially receives a TS packet including (a) the
predetermined unit of scrambled content and (b) unscrambled I picture information, wherein the
I picture information indicates whether the TS packet corresponding to the information consists
5 of a portion of an I picture/an I picture or not, and

 the storage means sequentially stores the received TS packet, wherein

 the descramble processing means includes:

scrambled content extraction means for, when performing particular reproduction processes, extracting the predetermined unit of scrambled content and I picture information from

10 one of the TS packets stored in the storage means;

I picture judgment means for judging whether the extracted predetermined unit of scrambled content consists of a portion of an I picture/an I picture or not, based on the extracted I picture information;

15 descrambling key extraction means for extracting a descrambling key from the list of descrambling keys, only when the extracted predetermined unit of scrambled content consists of a portion of an I picture/an I picture; and

descrambling means for descrambling the extracted predetermined unit of scrambled content using the extracted descrambling key.

11. (Previously Presented) The reception apparatus of Claim 1 further managing contract information and consisting of a security module whose portion does not effectively function if a contract has not been made, and other modules, the reception apparatus further comprising:

5 list holding means for holding the list of descrambling keys extracted by the list extraction means,

wherein the list extraction means and the list holding means are provided within the security module.

12. (Previously Presented) A reception apparatus which receives and reproduces scrambled content in a normal reproduction mode and in a particular reproduction mode, comprising:

reception means for receiving the scrambled content, wherein the scrambled
5 content is a content which has been scrambled in units of frames so that the frames can be
descrambled using descrambling keys that respectively correspond to each of the frames, and the
descrambling keys are attached to the frames of scrambled content;

storage means for storing the received scrambled content;

list generation means for, when/after storing the received scrambled content by
10 said storage means, generating a list of descrambling keys which includes all of the descrambling
keys attached to each frame of the scrambled content,

list extraction means for extracting the list of descrambling keys from the stored
storage information;

descramble processing means for descrambling the scrambled content;

15 reproduction means for reproducing the descrambled content, wherein

the normal reproduction mode is a mode which includes a play mode and in
which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and
in which only predetermined frames selectively extracted from less than all of the frames are
20 descrambled and reproduced, and

(a) in the normal reproduction mode,

said list extraction means extracts all descrambling keys from the list of
descrambling keys,

said descramble processing means descrambles each frame of all of the frames
25 using each of the extracted descrambling keys, and

said reproduction means reproduces all of the frames descrambled by said descrambling means, and

(b) in the particular reproduction mode,

said list extraction means selectively extracts descrambling keys corresponding to
30 the predetermined frames from the list of descrambling keys,

said descramble processing means descrambles each of the predetermined frames using the extracted descrambling keys, and said reproduction means reproduces the predetermined frames descrambled by said descrambling means.

13. (Previously Presented) The reception apparatus of Claim 12, wherein

the reception means sequentially receives a TS packet including (a) the predetermined unit of scrambled content, and (b) auxiliary information including a descrambling key and information for associating the descrambling key with scrambled content,

5 the storage means sequentially stores the received TS packet, and

the list generation means generates the list of descrambling keys, based on the auxiliary information.

14. (Previously Presented) The reception apparatus of Claim 13, wherein

the TS packet includes an ECM, the auxiliary information being embedded in a portion to be encoded in a main body of the ECM, and

the list generation means extracts the auxiliary information embedded in the
5 ECM, and generates the list of descrambling keys based on the auxiliary information.

15. (Previously Presented) A broadcast apparatus which scrambles content and broadcasts the scrambled content to a reception apparatus, the broadcast apparatus comprising:

acquisition means for acquiring content to be scrambled and a plurality of descrambling keys;

5 scramble processing means that selects one of the descrambling keys for each frame of the content, and scrambles the each frame so that the frame can be descrambled by using the descrambling key selected for the frame;

attaching means for attaching auxiliary information, which is used to generate a list of the descrambling keys, wherein the auxiliary information includes (a) information for
10 identifying each of the frames and (b) each of the descrambling keys selected for the frame; and

broadcast means for broadcasting the scrambled content including the plurality of scrambled frames to which the auxiliary information has been attached.

16. (Original) The broadcast apparatus of Claim 15, wherein

the attaching means embeds the auxiliary information in a portion to be encoded in a main body of an ECM and attaches the ECM to the predetermined unit of scrambled content.

17. (Previously Presented) A broadcast apparatus which scrambles content and broadcasts the scrambled content to a reception apparatus, the broadcast apparatus comprising:

acquisition means for acquiring content to be scrambled and a plurality of descrambling keys;

5 scramble processing means that selects one of the descrambling keys for each frame of the content, and scrambles the each frame so that the frame can be descrambled by using the descrambling key selected for the frame;

list generation means for generating a list of descrambling keys which includes all of the descrambling keys selected by the scramble processing means

10 embedding means for embedding the list of descrambling keys in at least one piece of predetermined information to generate at least one piece of storage information; and

 broadcast means for broadcasting the generated storage information and the scrambled content.

18. (Previously Presented) The broadcast apparatus of Claim 17, wherein

 the embedding means embeds the list of descrambling keys in one piece of predetermined information to generate one piece of storage information, and

 the broadcasting means broadcasts the generated one piece of information and the
5 scrambled content.

19. (Previously Presented) The broadcast apparatus of Claim 17, wherein

 the embedding means embeds a divided portion of the list of descrambling keys in each of a plurality of pieces of predetermined information to generate a plurality of pieces of storage information, and

5 the broadcasting means broadcasts the generated plurality of pieces of storage information and the scrambled content.

20. (Previously Presented) The broadcast apparatus of Claim 17, wherein

 the embedding means embeds the list of descrambling keys in a portion to be encoded in a main body of at least one ECM to generate at least one piece of storage information.

21. (Original) The broadcast apparatus of Claim 17, wherein

the broadcast means broadcasts one set of the storage information while all the scrambled content corresponding to the storage information are broadcast once.

22. - 25. (Cancelled)

26. (Previously Presented) A recording medium on which a program used for a reception apparatus which receives and reproduces scrambled content is recorded, the program causing the reception apparatus to perform:

a reception step for receiving the scrambled content and storage information,

5 wherein (a) the scrambled content is a content which has been scrambled in units of frames so that the frames can be descrambled using descrambling keys that respectively correspond to each of the frames, and (b) the storage information includes a list of the descrambling keys which includes all of the descrambling keys;

a storage step for storing the received scrambled content and the storage
10 information;

a list extraction step for extracting the list of descrambling keys from the stored storage information;

a descramble processing step for descrambling the scrambled content; and a reproduction step for reproducing the descrambled content, wherein

15 the normal reproduction mode is a mode which includes a play mode and in which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and in which only predetermined frames selectively extracted from less than all of the frames are descrambled and reproduced, and

20 (a) in the normal reproduction mode,
said list extraction step extracts all descrambling keys from the list of descrambling keys,

said descramble processing step descrambles each frame of all of the frames using each of the extracted descrambling keys, and

25 said reproduction step reproduces all of the frames descrambled by said descrambling means, and

 (b) in the particular reproduction mode,
said list extraction step selectively extracts descrambling keys corresponding to the predetermined frames from the list of descrambling keys,

30 said descramble processing step descrambles each of the predetermined frames using the extracted descrambling keys, and

said reproduction means reproduces only the predetermined frames descrambled by said descrambling means so that the content is reproduced in a different speed than a speed of reproduction of the normal reproduction mode.

27. (Previously Presented) A recording medium on which a program used for a reception apparatus which receives and reproduces scrambled content is recorded, the program causing the reception apparatus to perform:

a reception step for receiving the scrambled content, wherein the scrambled
5 content is a content which has been scrambled in units of frames so that the frames can be
descrambled using descrambling keys that respectively correspond to each of the frames, and the
descrambling keys are attached to the frames of scrambled content;

a storage step for storing the received scrambled content;

a list generation step for, when/after storing the received scrambled content in the
10 storage step, generating a list of descrambling keys which includes all of the descrambling keys
attached to each frame of the scrambled content,

a list extraction step for extracting the list of descrambling keys from the stored
storage information;

a descramble processing step for descrambling the scrambled content; a
15 reproduction step for reproducing the descrambled content, wherein

the normal reproduction mode is a mode which includes a play mode and in
which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and
in which only predetermined frames selectively extracted from less than all of the frames are
20 descrambled and reproduced, and

(a) in the normal reproduction mode,

said list extraction step extracts all descrambling keys from the list of
descrambling keys,

said descramble processing step descrambles each frame of all of the frames using
25 each of the extracted descrambling keys, and

said reproduction step reproduces the all frames descrambled by said descrambling step, and

(b) in the particular reproduction mode,

said list extraction step selectively extracts descrambling keys corresponding to
30 the predetermined frames from the list of descrambling keys,

said descramble processing step descrambles each of the predetermined frames using the extracted descrambling keys, and

said reproduction step reproduces the predetermined frames descrambled by said descrambling step at a speed of reproduction that is different than a speed of reproduction of the
35 normal reproduction mode.

28. (Previously Presented) A recording medium on which a program used for a broadcast apparatus which scrambles content and broadcasts the content to a reception apparatus is recorded, the program causing the broadcast apparatus to perform:

an acquisition step for acquiring content to be scrambled and a plurality of
5 descrambling keys;

a scramble processing step for selecting one of the descrambling keys for each frame of the content, and scrambling the each frame so that the frame can be descrambled by using the descrambling key selected for the frame;

an attaching step for attaching auxiliary information, which is used to generate a
10 list of the descrambling keys, wherein the auxiliary information includes (a) information for identifying each of the frames and (b) each of the descrambling keys selected for the frame; and

a broadcast step for broadcasting the scrambled content including the plurality of scrambled frames to which the auxiliary information has been attached.

29. (Previously Presented) A recording medium on which a program used for a broadcast apparatus which scrambles content and broadcasts the content to a reception apparatus is recorded, the program causing the broadcast apparatus to perform:

an acquisition step for acquiring content to be scrambled and a plurality of
5 descrambling keys;

a scramble processing step for selecting one of the descrambling keys for each frame of the content, and scrambling the each frame so that the frame can be descrambled by using the descrambling key selected for the frame;

a list generation step for generating a list of descrambling keys which includes all
10 of the descrambling keys selected by the scramble processing means;

an embedding step for embedding the list of descrambling keys in at least one piece of predetermined information to generate at least one piece of storage information; and

a broadcast step for broadcasting the generated storage information and the scrambled content.

30. (Cancelled)

31. (Previously Presented) A method for receiving and reproducing scrambled content, the method comprising:

a reception step for receiving the scrambled content and storage information, wherein (a) the scrambled content is a content which has been scrambled in units of frames so
5 that the frames can be descrambled using descrambling keys that respectively correspond to each

of the frames, and (b) the storage information includes a list of the descrambling keys which includes all of the descrambling keys;

a storage step for storing the received scrambled content and the storage information;

10 a list extraction step for extracting the list of descrambling keys from the stored storage information;

a descramble processing step for descrambling the scrambled content; and a reproduction step for reproducing the descrambled content, wherein

15 the normal reproduction mode is a mode which includes a play mode and in which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and in which only predetermined frames selectively extracted from less than all of the frames are descrambled and reproduced, and

(a) in the normal reproduction mode,
20 said list extraction step extracts all descrambling keys from the list of descrambling keys,

said descramble processing step descrambles each frame of all of the frames using each of the extracted descrambling keys, and

said reproduction step reproduces the all frames descrambled by said
25 descrambling means, and

(b) in the particular reproduction mode,

said list extraction step selectively extracts descrambling keys corresponding to the predetermined frames from the list of descrambling keys,

said descramble processing step descrambles each of the predetermined frames
30 using the extracted descrambling keys, and
said reproduction means reproduces only the predetermined frames descrambled
by said descrambling means so that the content is reproduced in a different speed than a speed of
reproduction of the normal reproduction mode.

32. (Previously Presented) A method for receiving and reproducing scrambled
content, the method comprising:

a reception step for receiving the scrambled content, wherein the scrambled
content is a content which has been scrambled in units of frames so that the frames can be
5 descrambled using descrambling keys that respectively correspond to each of the frames, and the
descrambling keys are attached to the frames of scrambled content;

a storage step for storing the received scrambled content;

a list generation step for, when/after storing the received scrambled content in the
storage step, generating a list of descrambling keys which includes all of the descrambling keys
10 attached to each frame of the scrambled content;

a list extraction step for extracting the list of descrambling keys from the stored
storage information;

a descramble processing step for descrambling the scrambled content;

a reproduction step for reproducing the descrambled content, wherein
15 the normal reproduction mode is a mode which includes a play mode and in
which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and in which only predetermined frames selectively extracted from less than all of the frames are descrambled and reproduced, and

20 (a) in the normal reproduction mode,
said list extraction step extracts all descrambling keys from the list of descrambling keys,

said descramble processing step descrambles each frame of all of the frames using each of the extracted descrambling keys, and

25 said reproduction step reproduces all of the frames descrambled by said descrambling step, and

 (b) in the particular reproduction mode,
said list extraction step selectively extracts descrambling keys corresponding to the predetermined frames from the list of descrambling keys,

30 said descramble processing step descrambles each of the predetermined frames using the extracted descrambling keys, and

said reproduction step reproduces the predetermined frames descrambled by said descrambling step at a speed of reproduction that is different than a speed of reproduction of the normal reproduction mode.

33. (Previously Presented) A method for scrambling content and broadcasting the scrambled content to a reception apparatus, the method comprising:

an acquisition step for acquiring content to be scrambled and a plurality of descrambling keys;

5 a scramble processing step for selecting one of the descrambling keys for each frame of the content, and scrambling the each frame so that the frame can be descrambled by using the descrambling key selected for the frame;

 an attaching step for attaching auxiliary information, which is used to generate a list of the descrambling keys, wherein the auxiliary information includes (a) information for
10 identifying each of the frames and (b) each of the descrambling keys selected for the frame; and

 a broadcast step for broadcasting the scrambled content including the plurality of scrambled frames to which the auxiliary information has been attached.

34. (Previously Presented) A method for scrambling content and broadcasting the scrambled content to a reception apparatus, the method comprising:

 an acquisition step for acquiring content to be scrambled and a plurality of descrambling keys;

5 a scramble processing step for selecting one of the descrambling keys for each frame of the content, and scrambling the each frame so that the frame can be descrambled by using the descrambling key selected for the frame;

 a list generation step for generating a list of descrambling keys which includes all of the descrambling keys selected by the scramble processing step;

10 an embedding step for embedding the list of descrambling keys in at least one piece of predetermined information to generate at least one piece of storage information; and

 a broadcast step for broadcasting the generated storage information and the scrambled content.

35. (New) The reception apparatus of Claim 1, wherein in the particular reproduction mode, said reproduction means reproduces the predetermined frames in a quality substantially similar to a quality if the predetermined frame was reproduced by said reproduction means in the normal reproduction mode.